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AI-ENABLED HRM PRACTICES & EMPLOYEE INNOVATIVE WORK BEHAVIOR: MEDIATING ROLE OF PSYCHOLOGICAL EMPOWERMENT

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ABSTRACT

While growing use of human resource management artificial intelligence is revolutionizing HRM, less attention has been paid to its consequences for employee innovative work behavior. Based on self-determination theory, this study aims to explore how AI-Enabled HRM practices are related to employees' innovative work behavior & how psychological empowerment functions as a link between these two variables. Data was collected from 325 managerial and HR employees from multinationals in Pakistan using quantitative, cross-sectional methodology. The exploratory factor analysis, reliability analysis, correlation analysis and Hayes' PROCESS Model-4 with bootstrapping were used to analyze data. From results, it can be concluded that relationship between AI-Enabled HRM practices and psychological empowerment and innovative work behavior is positive. The psychological empowerment shows significant relationship to innovative work behavior, and partially mediates amid AI-Enabled HRM practices and innovative work behavior. The findings add to burgeoning research upon AI-HRM, by finding how AI-powered HR practices lead to emotional empowerment that stimulates innovative employee behaviors as well as give some tips on designing AI-powered HR system that help empower, rather than diminish employee creativity.

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INTRODUCTION

The technology, especially artificial intelligence (AI), has taken over human resource management (HRM) practices and is turning notion from rule-driven and somewhat administrative into science-driven, algorithmic decision-making in recruitment, performance management, training & employee feedback (Budhwar, Malik, Thedushika, Silva & Thevisuthan, 2022; Prikshat, Malik & Budhwar, 2021). Companies are not only using AI-powered chatbots, prediction analytics and automated

feedback systems to lighten the administrative task load but to transform the employee experience (Dutta, Mishra & Tyagi, 2022; Malik, Budhwar & Kazmi, 2022). This transformation has led to a growing and significant amount of empirical and theoretical research on the impact of AI-Enabled HRM on employee attitudes and behaviors, focusing most prominently on employee engagement, trust, and organizational performance in the diverse circumstances (Jia & Hou, 2024; Prasad & De, 2024; Jangbahadur, Ahlawat, Rozera & Gupta, 2024). Concurrently, employee innovation—creating, communicating and putting into practice innovative ideas about work and its outputs has become among the most strategically critical contributors to an organization's performance (Scott & Bruce, 1994).

The linkages amid AI-enabled HRM and employee innovation performance outcomes are relatively less explored compared to linkages with engagement (Ali, Cichoń & Abbas., 2026; Wang & Long, 2025; Li, Choi & Kim, 2025). In instances where this link has been investigated, the results indicate a potential paradox: AI-Enabled HRM may drive the innovative action by fostering metacognitive engagement and psychological capital, but it can discourage innovative behavior over knowledge hiding & emotional exhaustion, depending on employees' appraisal & experience with algorithmic management (Liu, Yuan & Tan, 2026; Liu, Tian & Chen, 2026; Pavlov, 2026). This incongruence indicates that influence of AI-Enabled HRM on innovation is not direct or uniform, but mediated by a psychological mechanism that acts as a buffer, either buffering positive or negative reactions to AI. The competitive advantage is being gained by ability of the people in the system to recognize and pursue improvement opportunities, and not just perform the specific work assigned to them This incongruence suggests that effects of AI-Enabled HRM on innovation are neither straightforward nor monolithic, but instead mediated by psychological mechanism that buffers positive or negative reactions to AI.

The empowerment, an employee's internalized sense of meaning, competence, self-determination, and impact in their work role (Spreitzer, 1995)–provides theoretically compelling candidate for the mechanism. According to study, psychological empowerment is mediator between conventional HR practices and innovative work behavior (Dabouba, Madadha & Adwan, 2023; Rehman, Ahmad, Allen, Raziq & Riaz, 2019) and AI-based HRM systems can influence psychological empowerment by boosting employee's self-efficacy and self-concept (Gao, Xu, Wang & Wu, 2023). Existing in this pathway is a coherent theoretical rationale, self-determination theory (Ryan & Deci, 2000): work environments that satisfy basic psychological needs of workers for autonomy, competence & relatedness lead to intrinsic motivation (Doan & Tran, 2025). Despite all this theoretical viability, however, systematic reviews of AI-HRM literature indicate lack of cross-cultural validation as well as a scarcity of longitudinal and experimental designs, and only a few studies have directly tested three-variable pathway amid AI-Enabled HRM practices, employee innovation and psychological empowerment (Pan & Froese, 2022; Kim, Khoreva & Vaiman, 2024; Croitoru, Florea, Florea, Savu & Croitoru, 2025).

This study attempts to fill gaps by proposing and examining a simple mediation model whereby psychological empowerment acts as mediator between AI-enabled HRM practices and employee innovation. It does so by following the literature which explicitly calls for research that uses existing

motivational theory as a foundation to explain the outcomes of AI-HRM, and not just descriptive or engagement-centric frameworks (Ali et al., 2026; Wang & Long, 2025). It provides a literature review of AI-Enabled HRM practices, empowerment, employee innovation, and theoretical change of the proposed model, along with the study hypotheses. As organizations operate in increasingly competitive and technologically dynamic environments, ability of employees to generate, promote, and implement ideas has become essential for organizational survival and sustainable performance. Consequently, understanding whether AI-enabled HRM practices encourage employee innovative work behavior has emerged as vital area of organizational and HRM research. The empirical results, theoretical and practical implications for organizations looking to implement AI-enhanced HRM systems that amplify employees' innovation are presented in following sections, through detailed existing literature.

LITERATURE REVIEW

AI-Enabled HRM Practices

AI-Enabled human resource management (HRM) entails using algorithmic and machine-learning technologies for the key HRM activities like recruitment, performance evaluation, training, as well as employee feedback (Prikshat, Malik & Budhwar, 2021, Ali et al., 2026). One of the most cited conceptual explanations of this change is by Budhwar, Malik, Thedushika, Silva and Thevisuthan (2022) who suggest that AI is reshaping international HRM, automating mundane administrative tasks and creating new managerial and ethical issues. Similarly, in the systematic review article, Malik, Budhwar and Kazmi (2022) describe how AI-driven human resource management is the strategic capability, transforming outcomes in organizations and people rather than just a technical advancement. In a multi-source, time-lagged field study, Dutta, Mishra and Tyagi (2022) also find role of AI in enhancing employee voice and engagement, thus highlighting that AI-Enabled HRM does not just involve structural changes in HR processes, but personal experience of employees with algorithmic systems.

This stream of research continues in sustainability and digitization fields, with Jia and Hou (2024) indicating that AI-Enabled sustainable HRM has positive relationship with employee engagement, whereas Ali et al. (2026) suggest that AI-Enabled HRM has a paradoxical dual nature, operating as either an autonomy-supportive or an autonomy-controlling mechanism, depending on its design and perception. AI-enabled HRM practices represent a shift from conventional administrative HR systems toward intelligent and strategically oriented human resource management. Despite the growth of this literature, there has been a constant and consistent finding that domain of AI-HRM still lacks a coherent theoretical view, with a significant portion of work still centered around the cross-sectional design (Pan & Froese, 2022; Kim et al., 2024), offering ample opportunity for the testing of AI-Enabled human resource management against expressively rooted outcome variables likewise innovation.

Theoretical Foundations

A model of relationship between AI-enabled HRM and employee innovation is based on several complementary theoretical lenses, which include psychological empowerment. Self-Determination

Theory (SDT) (Ryan & Deci, 2000) states that individuals have innate psychological needs, which include autonomy, competence and relatedness, and that work environments that support these needs promote intrinsic motivation and consequently, proactive, innovative behavior. Concerning AI-HRM, Doan and Tran (2025) reveal that workplace support for autonomy, competence, and relatedness are strong predictors of innovative work behaviour; among them, workplace support for competence is the strongest predictor ($\beta = 0.30, p < .01$). A second lens is the Job Demands–Resources (JD-R) model, which can be used to consider AI as a job resource that enhances the psychological capital as well as empowerment or as the job demand that leads towards strain and exhaustion (Liu, Yuan & Tan, 2026).

Indeed, social exchange theory suggests that HRM–empowerment–innovation chain is a two-way street, with HR practices demonstrating the commitment of an organization to the employees and vice versa, as employees invest in process with an empowered, innovation-oriented effort (Dabouba et al., 2023). The ability-motivation-opportunity framework posits that AI-Enabled sustainable HRM can serve to improve abilities of employees through customized learning programs, provide them with the real-time feedback to motivate them, as well as create opportunities for their career development via its ease of use (Jia & Hou, 2024). AI-supported recruitment may contribute to better person-job fit when systems are designed transparently and responsibly. In combination, these frameworks all point to the idea that AI-enabled HRM practices can impact upon innovation indirectly and not universally, but rather through psychological condition it fosters and/or erodes, namely empowerment.

AI-Enabled HRM Practices & Employee Innovation

There is a relative lack of direct evidence on relationship between AI-enabled HRM and employee innovation, but the evidence that is available suggests the positive relationship. Li, Choi and Kim (2025) suggest the dual-pathway moderated mediation model, suggesting that the AI awareness is connected to employee innovations and Ali et al. (2026) conclude that AI-enabled HRM digitization is tied to positive employee outcomes, including innovation-relevant behaviors, under conditions. Paradox literature shows that, at the same time, relationship between the two is not always positive – hindrance appraisals of AI can result in knowledge hiding and emotional exhaustion (Liu et al., 2026), too much algorithm control can lead to technostress and autonomy deprivation, which can limit innovative efforts (Pavlov, 2026; Gupta, Lakhera & Sharma, 2024). In this connection, this mixed evidence base which is strong in the adjacent engagement–performance chain (Jia & Hou, 2024; Prasad & De, 2024) yet thin and conditional as regards to innovation specifically justifies the first hypothesis.

H1: The AI-enabled HR management practices are positively related with the employee innovation.

AI-Enabled HRM Practices & Psychological Empowerment

The connection of AI-enabled HRM and psychological empowerment is more consistent. Gao et al. (2023) reveal that AI-powered HRM system increases psychological empowerment of employees through their self-efficacy and self-concept. Dabouba et al. (2023) demonstrate that HR practices, in particular job design, play a role as an important indicator of antecedents of the psychological empowerment, which in turn influences innovative work behavior. With SDT assessment, Doan and

Tran (2025) find that the motivational states related to empowerment strongly predict innovative behaviour, in particular, motivational states regarding autonomy, competence, and relatedness needs are predicted by AI tools significantly supporting these motivational needs. This dynamic is not naturally occurring, but rather occurs through certain conditions: algorithmic transparency and procedural fairness are seen key mechanism to determine if employee feels AI-HRM is empowering or threatening, with opacity leading to algorithmic anxiety and a sense of loss of autonomy (Yin, 2026; Pavlov, 2026). Bandara et al. (2025) point out that unaddressed algorithmic bias poses the threat to the effectiveness of strategic HRM and consequently to the empowerment sought to be facilitated by a well-designed AI-HRM. The results show that the psychological empowerment has the potential to be improved through AI-enabled HRM; however, this depends on quality of design as well as implementation.

H2: AI-Enabled HR management practices are positively related to psychological empowerment.

Psychological Empowerment & Employee Innovation

The most well-supported pathway in literature reviewed is empowerment-innovation pathway. In the context of high involvement HR systems in software companies in Pakistan, Rehman et al. (2019) reveal that psychological empowerment plays the mediating role between ability-enhancing and opportunity-enhancing HR systems and innovative work behavior, and relationship is strengthened by a sense of support from managers and co-workers. Dabouba et al. (2023) validate that the HR practices–firm innovative capability relationship is fully mediated by innovative work behavior & emotional empowerment. Gao and Gao (2024) conclude that mechanism amid digital leadership and innovative behavior is psychological empowerment, and not affective commitment. This is in line with fundamental innovation research, that shows that employees who feel useful, competent, autonomous, and impactful in jobs are likely to have innovative ideas and lead to implementation (Scott & Bruce, 1994; Spreitzer, 1995). The pathway linking variable to concept of empowerment is the most consistent and strong one in the theoretical part of the corpus in terms of contexts (China, Jordan, Pakistan).

H3: Psychological empowerment is positively related to employee innovation in particular context.

Psychological Empowerment as Mediator

There are direct indications, although in limited studies, of mediating role. Dabouba et al. (2023) find that psychological empowerment is fully mediated by HR-practices-innovation. Psychological capital, conceptually close to empowerment, is mediator between the challenge appraisal of AI by employees and their innovative behaviors, whereas same route goes through hindrance appraisal and leads to knowledge hiding (Liu et al., 2026). Rehman et al. (2019) show that the effect of ability and opportunity-related HR practices on innovative work behavior is mediated, thus showing only a partial mediation, while effect of motivation enhancing HR practices are direct and unmediated. Mediators also add complexity to mediated chain: leadership developmental feedback reinforces relationship between AI challenge appraisals and empowerment (Liu et al., 2026); tacit knowledge awareness is either an activator for pathway between empowerment and innovation or deactivator (Ali et al., 2026); and culture strengthens indirect path to innovative behaviour (Liu et al., 2026). The evidence suggests that a mediation model might be used in which AI-Enabled HRM practices

impact innovation by influencing how they feel empowered (significant, competent, autonomous, & influential) in their jobs.
H4: Empowerment mediates the relationship between AI-Enabled HRM practices and innovations.

Research Gap

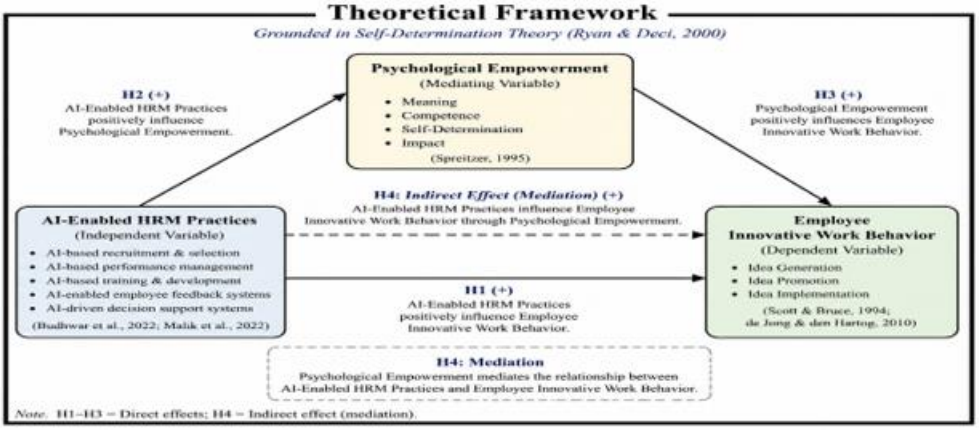
Although there has been a surge in number of publications researching use of AI in HRM, three gaps justify the present study. First, there is limited research testing direct impact of this specific three-variable chain as AI-Enabled HRM → psychological empowerment → innovation (Dabouba et al., 2023; Gao et al., 2023, Liu, Y. et al., 2026), and employee engagement and performance have been the outcome variables for most of the studies in AI-HRM domain (Jia & Hou, 2024; Thangaraju & Palani, 2025) but comparatively limited research has been conducted on impact of AI-enabled HRM on employee innovation (Ahmed et al., 2025; Mehmood et al., 2026). Second, methodological limitations are widespread: It is evident that vast majority of the studies have used cross-sectional designs, self-reported surveys (Mubarok & Nursaimat, 2026; Siddique et al., 2025; Ridwan et al., 2025) and almost no longitudinal or experimental studies have been conducted enabling the causal precedence to be drawn between the AI-HRM, empowerment and innovation (Liu, Y. et al., 2026; Croitoru et al., 2025).

Third, the integration in theory is uneven; while some AI-HRM studies showed the solid theoretical background, systematic reviews of the last few years (Kim et al., 2024; Pan & Froese, 2022) scored less than one quarter of the studies, and Self-Determination Theory, with strong conceptual fit, is underutilized in context of AI-HRM–innovation research (Ali et al., 2026; Wang & Long, 2025). Cross-cultural validation is weak; most of the empirical studies are conducted at the country level like Vietnam (Doan & Tran, 2025), Jordan (Dabouba et al., 2023), Pakistan (Rehman et al., 2019), and China (Rao et al., 2020), which does not make the proposed mediation mechanism universally applicable. The appropriate job placement can consequently establish an important foundation for employee psychological empowerment and subsequent innovative behavior. To fill in these gaps, study bases on self-determination theory to develop simple mediation model to examine whether psychological empowerment mediates the relationship between AI-Enabled HRM practices and employee innovation.

Theoretical Framework

Based upon the previous literature and self-determination theory, this study postulates that AI-Enabled HRM practices have a direct impact on employees' innovative work behaviour, as well as indirect impact through psychological empowerment. In particular, AI-assisted HRM practices are likely to positively shape employees' sense of meaning, competence, self-determination and impact, and thus support innovative work behavior. Overall, the proposed study suggests that AI-enabled HRM practices can provide employees with information, developmental opportunities, personalized support, feedback, and greater decision-making capabilities; these resources strengthen employees' feelings of meaning, competence, self-determination, and impact, in turn encourage employees to generate, promote, and implement innovative ideas. For this reason, psychological empowerment is put forward as mediator that connects the AI-enabled HR management practices and employees' innovative behavior.

Figure 1 Theoretical Framework



RESEARCH METHODOLOGY

This study was conducted with a quantitative research approach using the cross-sectional survey design to analyze the relationships between AI-Enabled HRM practices and employee innovative work behavior, and to test the mediating effect of psychological empowerment. The population of the study was mid managers to senior managers working in the multinational companies (MNCs) with technology interventions in human resource management processes in Pakistan, as they have direct exposure to technology intervention in HR processes. The sampling method applied was purposive sampling to ensure that respondents were experienced with AI-supported HR practices. The context of the previous study remained untouched and the study was carried out on five MNCs including the Unilever Pakistan, Nestlé Pakistan, Coca-Cola Pakistan, Getz Pharma Pakistan, and PepsiCo Pakistan.

A structured self-administered questionnaire was given to HR and managerial employees. A total of 325 usable questionnaires were returned following quality checks for the missing data, lack of engagement with the questionnaire and outliers, yielding an effective response rate of 85.5%. The measurement of all constructs was based upon the five-point scale from 1=strongly disagree to 5 = strongly agree. In this linking, AI-Enabled HRM practices were assessed with eight items adapted from Mollah, Amin, Rahman, Islam, Debnath, Debnath and Oláh (2026), and the psychological empowerment with Spreitzer's (1995) 12 item scale and innovative work behavior with the 10-item scale of Jong and Hartog (2010). This reflects idea exploration, generation, promotion together with the implementation.

Analytical Procedure

IBM SPSS Statistics and Hayes' PROCESS Macro were used to analyze the data. Exploratory factor analysis (EFA) was performed to analyze the data using principal component analysis with Varimax rotation. Common method variance was a diagnostic based on Harman's single factor test. Pearson's correlations were computed and subsequently Model 4 in PROCESS was used to test hypothesized mediation in the study towards conclusion. 5,000 bootstrap samples with a 95% confidence interval

were used for indirect effects. This procedure follows the same analytics approach that was taken in the prior study.

RESULTS OF STUDY

The respondents of the sample were 325 persons. The male respondents accounted for the majority (75.4%) and female respondents (24.6%). The largest age group was 31–40 years (43.1%), followed by 41–50 years (30.5%). In terms of education 56.0% possessed a master's degree and 30.8% an MPhil/PhD. The majority of the respondents (55.7%) indicated that they had over 10 years of work experience in study.

Table 1 Descriptive Statistics and Reliability

Construct	Items	Mean	SD	Cronbach's α
AI-Enabled HRM Practices	8	2.871	0.887	.793
Psychological Empowerment	12	2.946	0.867	.860
Employee Innovative Work Behavior	10	2.967	0.831	.806

All three measures acceptable internal consistency with Cronbach's alphas between .793 and .860. Consequently, the results of study show that the reliability is satisfactory for the analyses in current research study.

Table 2 KMO and Bartlett's Test

Test	Value
KMO	.900
Bartlett's χ^2	2496.496
DF	435
p	< .001

The three-factor solution was based on theory, and the items were clearly differentiated among the AI-Enabled HRM, psychological empowerment, and innovative work behavior. All primary factor loadings were greater than .490 and none of the cross-loadings were substantive. Results from the Harman's single factor test revealed that the first unrotated component could only account for the 22.09% of total variance, which is well below the 50 % cut-off generally considered as evidence of serious common method biases. Therefore, none of these relationships seem to be due to the common method variance.

Table 3 Pearson Correlations

Variable	1	2	3
1. AI-Enabled HRM Practices	1.000	.280***	.265***
2. Psychological Empowerment	.280***	1.000	.405***
3. Innovative Work Behavior	.265***	.405***	1.000

*Note. **p < .001, two-tailed.

There were positive relationships amid AI-enabled HRM practices & psychological empowerment (r = .280, p < .001) and innovative working behavior (r = .265, p < .001). The empowerment was also

positively related to innovative work behavior ($r = .405$, $p < .001$). These results lend evidence to the possible relationships.

Table 4 PROCESS Model-4 Results

Relationship	B	SE	β	t	p
AIHRM → Psychological Empowerment	.274	.052	.280	5.246	< .001
Psychological Empowerment → IWB	.344	.050	.359	6.861	< .001
AIHRM → IWB (direct effect)	.154	.049	.164	3.143	.002
AIHRM → IWB (total effect)	.248	.050	.265	4.937	< .001

The results showed the positive predictive value of practices in AI-enabled HRM for psychological empowerment ($\beta = .280$, $p < .001$), which supported H1. Psychological empowerment further positively predicted innovative work behavior ($\beta = .359$, $p < .001$), thus supporting H2. The direct impact of AI-Enabled HRM practices on the innovative work behavior was significant (these results hold true even after accounting for the impact of the psychological empowerment, $\beta = .265$, $p < .001$). The direct effect remained significant after psychological empowerment was introduced ($\beta = .164$, $p = .002$).

Table 5 Indirect Effect of AI-Enabled HRM on IWB Via Empowerment

Effect	Boot SE	Boot LLCI	Boot ULCI
.100	.024	.057	.150

The indirect effect was significant as 95% bootstrap confidence interval [.057, .150] did not contain the value of 0. As a result, H3 was partially supported, as psychological empowerment clearly acted as mediator between AI-Enabled HRM practices and innovative work behavior. In this linking, this effect of mediation was partial, not complete, since the direct effect was still present as evident from results and outcomes.

Table 6 Hypothesis Testing

Hypothesis	Relationship	Decision
H1	AIHRM → Psychological Empowerment	Supported
H2	Psychological Empowerment → IWB	Supported
H3	AIHRM → IWB	Supported
H4	AIHRM → Psychological Empowerment → IWB	Supported

DISCUSSION

The findings support proposed model, showing that AI-enabled HRM practices positively influence employee innovative work behavior both directly and through psychological empowerment. AI-enabled HRM can augment employees' competence and autonomy by reducing routine demands, providing timely information, and supporting informed decision-making, consistent with the self-determination theory (Ryan & Deci, 2000). Psychological empowerment also promotes innovative work behavior by strengthening employees' sense of meaning, competence, self-determination, and impact (Spreitzer, 1995). The significant mediation effect further indicates that employees are more likely to innovate when they experience AI as an enabler of agency rather than a mechanism of

control. Consistent with Rehman et al. (2019), the findings position psychological empowerment as an important mechanism linking HR practices with innovation, while extending this relationship to the AI-enabled HRM context. The partial mediation also suggests that AI-enabled HRM influences innovation through both psychological and technological pathways. Thus, the study makes three principal contributions.

First, it shifts attention from the frequently examined AI-HRM outcomes such as engagement and performance toward employee innovative work behavior, an outcome that remains comparatively underexamined in emerging AI-HRM literature. Second, it identifies psychological empowerment as explanatory mechanism linking AI-enabled HRM with employee innovation, thereby connecting AI-HRM research with Self-Determination Theory. Third, the finding of partial mediation suggests that the relationship is neither purely technological nor purely psychological; AI-enabled HRM appears to influence innovation through both direct and motivational pathways. For practitioners, the results suggest that the organizations should design AI-enabled HR systems around employee enablement rather than automation alone. Thus, AI applications used for the recruitment, training, performance management, workforce planning, and career development should provide employees with useful information and decision support while preserving appropriate discretion and human judgment. The HR managers should also invest in employee AI literacy and communicate how AI-supported decisions are intended to augment rather than replace employee abilities. Such practices may increase likelihood that employees perceive AI as resource that strengthens their competence as well as autonomy.

CONCLUSION

This study examined whether AI-Enabled HRM practices contribute to employee innovative work behavior and whether psychological empowerment explains this relationship. The findings support all proposed hypotheses. AI-Enabled HRM practices were positively associated with psychological empowerment and innovative working behavior, while psychological empowerment was positively associated with innovation. Moreover, significant indirect effect demonstrates that psychological empowerment partially mediates the relationship amid AI-enabled HRM and employee innovative work behavior. The central implication is that the innovation value of AI-enabled HRM does not depend solely on the sophistication of technology. It also depends upon how employees experience the resulting work environment. In this connection, when the AI-enabled HR practices strengthen employees' sense of meaning, competence, self-determination, as well as impact, they may create psychological conditions conducive to innovative behavior. This supports the broader argument that successful AI-HRM implementation requires attention to both technological capability and human agency.

Limitations & Future Research

This study has several limitations as first, its cross-sectional design limits causal inference; future research should employ longitudinal or time-lagged designs. Second, the focus on MNCs in Pakistan limits generalizability, warranting replication across countries, industries, and organizational contexts. In this regard, the future studies should also examine moderators such as AI self-efficacy, algorithmic transparency, leadership, and AI trust. Finally, multi-source designs using supervisor-

rated innovative work behavior could reduce common-source bias and strengthen the validity of future findings.

REFERENCES

Ahmed, O., Saqib, A., Salman, S., Siddiqui, E. A., & Ali, O. (2025). AI-powered HRM and the sustainable organizational performance: Mediating roles of green learning and engagement under environmental uncertainty. *Research Journal for Social Affairs*. https://doi.org/10.71317/rjsa.003.06.0617.

Ali, A., Cichoń, D., & Abbas, A. (2026). AI-Enabled HRM digitization in effect: Mechanisms, conditions, and employee outcomes. *Journal of Innovation & Knowledge*. https://doi.org/10.1016/j.jik.2025.100919.

Bandara, R., Biswas, K., Akter, S., Shafique, S., & Rahman, M. (2025). Addressing algorithmic bias in AI-Enabled HRM systems: Implications for strategic HRM effectiveness. *Human Resource Management Journal*. https://doi.org/10.1111/1748-8583.12609.

Budhwar, P., Malik, A., Thedushika, M. T., Silva, D., & Thevisuthan, P. (2022). Artificial intelligence – challenges and opportunities for international HRM: A review and research agenda. *The International Journal of Human Resource Management,* 33 (6), 1065–1097. https://doi.org/10.1080/09585192.2022.2035161.

Croitoru, M. B., Florea, N., Florea, D., Savu, O., & Croitoru, G. (2025). Role of artificial intelligence in HR management: Implication for employee motivation, performance, technology acceptance. *Annals of Dunarea University of Galati. Fascicle I. Economics and Applied Informatics*. https://doi.org/10.35219/eai15840409529.

Dabouba, R. S. A., Madadha, A., & Adwan, A. (2023). Fostering firm innovativeness: Understanding sequential relationships between human resource practices, psychological empowerment, innovative work behavior, firm innovative capability. *International Journal of Innovation Studies*. https://doi.org/10.1016/j.ijis.2023.12.001.

de Jong, J. P. J., & Hartog, D. N. (2010). Measuring the innovative work behavior. *Creativity and Innovation Management, 19*(1), 23–36. https://doi.org/10.1111/j.1467-8691.2010.00547.x

Doan, H. H., & Tran, & M. L. (2025). AI-enhanced HRM: A catalyst for employee innovative work behavior through autonomy, competence, and relatedness. *Golden Ratio of Human Resource Management*. https://doi.org/10.52970/grhrm.v5i2.1269.

Dutta, D., Mishra, S., & Tyagi, D. (2022). Augmented employee voice and employee engagement using artificial intelligence-enabled chatbots: A field study. *The International Journal of Human Resource Management,* 34 (12), 2451–2480. https://doi.org/10.1080/09585192.2022.2085525.

Gao, P., & Gao, Y. (2024). How does digital leadership foster employee innovative behavior: A cognitive–affective processing the system perspective. *Behavioral Sciences,* 14 (5). https://doi.org/10.3390/bs14050362.

Gao, Q., Xu, J., Wang, Q., & Wu, C. (2023). The use of the analytic hierarchy process in improving psychological empowerment and employee performance. *Journal of Organizational and End User Computing,* 35, 1–22. https://doi.org/10.4018/joeuc.321171.

Gupta, P., Lakhera, G., & Sharma, M. (2024). Examining the impact of artificial intelligence on employee performance in the digital era: An analysis and future research direction. *The Journal of the High Technology Management Research*. https://doi.org/10.1016/j.hitech.2024.100520.

Jangbahadur, U., Ahlawat, S., Rozera, P., & Gupta, N. (2024). The effect of AI-enabled HRM dimensions on employee engagement and sustainable organizational performance: Fusion skills as the moderator. *Evidence-based HRM: A Global Forum for Empirical Scholarship*. https://doi.org/10.1108/ebhrm-02-2023-0038.

Jia, X., & Hou, Y. (2024). Architecting the future: Exploring the synergy of AI-Enabled sustainable HRM, conscientiousness, as well as the employee engagement. *Discover Sustainability, 5*. https://doi.org/10.1007/s43621-024-00214-5.

Kim, S., Khoreva, V., & Vaiman, V. (2024). Strategic human resource management in the era of algorithmic technologies: The key insights and future research agenda. *Human Resource Management*. https://doi.org/10.1002/hrm.22268.

Li, Z., Choi, M., & Kim, H.-E. (2025). AI awareness and employee innovation: A dual-pathway moderated mediation model within organizational systems. *Systems,* 13 (7), 530. https://doi.org/10.3390/systems13070530.

Liu, P., Yuan, L., & Tan, Z. (2026). Proactive or defensive? How AI awareness influences employees' innovative behavior as well as knowledge hiding. *Asia Pacific Journal of Human Resources*. https://doi.org/10.1111/1744-7941.70072.

Liu, Y., Tian, Q., & Chen, J. (2026). When artificial intelligence becomes a job resource: How psychological capital fuels innovation in algorithm-driven workplaces. *Frontiers in Psychology,* 17. https://doi.org/10.3389/fpsyg.2026.1740508.

Malik, A., Budhwar, P., & Kazmi, B. A. (2022). Artificial intelligence (AI)-assisted HRM: Towards an extended strategic framework. *Human Resource Management Review*. https://doi.org/10.1016/j.hrmr.2022.100940.

Mehmood, K., Hakeem, M. M., Han, S., Yang, G., Alshaghdali, N. O., & Rácz, I. (2026). Designing human-AI synergy systems: The influence of AI-Enabled sustainable HRM and AI-based decision-making on employee engagement and resilience. *Systems,* 14 (5). https://doi.org/10.3390/systems14050522.

Mollah, M. A., Amin, B., Rahman, M. M., Debnath, C., Debnath, G. C., & Oláh, J. (2026). Synergetic role of digital leadership artificial intelligence in HRM for sustainable performance: A dual-method approach using SEM and NCA. Telematics and Informatics Reports, 100303.

Mubarok, A., & Nursaimatussaddiya, N. (2026). AI-Enabled HRM and employee performance: The mediating role of HR agility in industrial companies. *Journal of Economics, Entrepreneurship, Management Business and Accounting*. https://doi.org/10.61255/jeemba.v4i1.861.

Pan, Y., & Froese, F. (2022). An interdisciplinary review of AI and HRM: Challenges and future directions. *Human Resource Management Review*. https://doi.org/10.1016/j.hrmr.2022.100924.

Pavlov, V. (2026). Psychology of human-artificial intelligence interaction in human resource management: Motivation, stress, and employees' professional identity. *Actual Problems of Economics*. https://doi.org/10.32752/1993-6788-2026-1-296-140-147.

Prasad, K., & De, T. (2024). Generative AI as a catalyst for HRM practices: Mediating effects of trust. *Humanities and Social Sciences Communications, 11*. https://doi.org/10.1057/s41599-024-03842-4.

Prikshat, V., Malik, A., & Budhwar, P. (2021). AI-augmented HRM: Antecedents, assimilation and multilevel consequences. *Human Resource Management Review*. https://doi.org/10.1016/j.hrmr.2021.100860.

Rehman, W., Ahmad, M., Allen, M., Raziq, M. M., & Riaz, A. (2019). High involvement HR systems and innovative work behaviour: The mediating role of psychological empowerment, and the moderating roles of the manager and co-worker support. *European Journal of Work and Organizational Psychology,* 28 (4), 525–535. https://doi.org/10.1080/1359432x.2019.1614563.

Ridwan, A., Sustiyatik, E., & Jauhari, T. (2025). Strategic framework AI-Enabled HRM, hybrid work, psychological welfare, sustainable talent development, and governance of HR against HR future trends. *Annals of Human Resource Management Research*. https://doi.org/10.35912/ahrmr.v5i4.3461.

Ryan, R. M., & Deci, E. L. (2000). The self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist,* 55 (1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal,* 37(3), 580–607. https://doi.org/10.2307/256701.

Siddique, S. A., Zulqarnain, M., Qaiser, A., Baig, M. A., & Abrar, F. (2025). The impact of artificial intelligence (AI) integration in HR practices on employee engagement and organizational performance. *Annual Methodological Archive Research Review*. https://doi.org/10.63075/zge4d311.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. *Academy of Management Journal,* 38 (5), 1442–1465. https://doi.org/10.5465/256865.

Thangaraju, K., & Palani, P. (2025). The influence of AI-Enabled sustainable human resource management on employee creative performance: Analyzing idiosyncratic deals in the Indian information technology sector. *Economics,* 13 (1), 1–17. https://doi.org/10.2478/eoik-2025-0081.

Wang, X., & Long, L.-L. (2025). The innovation paradox in human-AI symbiosis: Ambidextrous effects of AI technology adoption on innovative behavior. *Frontiers in Artificial Intelligence, 8*. https://doi.org/10.3389/frai.2025.1635246.

Yin, Y.-T. (2026). Practice of human resource management driven by artificial intelligence and employee response. *The International Journal of Advanced Engineering and Technology Research*. https://doi.org/10.54097/wvqgkz05